UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

August 31, 2018

MEMORANDUM

SUBJECT: FY 2018 Office of Research and Development
Managers' Financial Integrity Act Assurance Letter

FROM: Jennifer Orme-Zavaleta, PhD
Principal Deputy Assistant Administrator for Science

TO: Andrew Wheeler
Acting Administrator

PURPOSE

In accordance with the *Federal Managers' Financial Integrity Act* and agency guidance, I am
submitting my Fiscal Year (FY) 2018 annual assurance letter attesting to the soundness of
internal controls for the Office of Research and Development (ORD).

STATEMENT OF ASSURANCE

Under my leadership, ORD has conducted an evaluation of the effectiveness of internal controls
based on the five standards for internal controls contained in the Government Accountability
Office's Green Book. Please refer to Attachment B, *GAO Standards for Internal Control*, for a
summary of the evaluation.

Based on the results of ORD's evaluation, I can provide reasonable assurance that internal
controls are designed, implemented, and operating effectively. In my judgment, ORD complies
with the requirements set forth in the Federal Managers' Financial Integrity Act and Office of
Management and Budget Circular A-123, Management's Responsibility for Enterprise Risk
Management and Internal Control.

Additionally, my office has reviewed its efforts to ensure scientific integrity in FY 2018, and has
electronically submitted the scientific integrity questionnaire that assesses my office's
compliance with the agency's Scientific Integrity Policy.

RESULTS OF INTERNAL CONTROL REVIEWS

In FY 2018, ORD again participated in more than 100 internal and external reviews of our programmatic and administrative functions. These reviews are conducted regularly as part of legislative, regulatory, Agency requirements, an assessed risk, or management's decision. The outcomes of these reviews are reported in Lab, Center, Office (LCO) assurance letters as well as individual reports. Due to the number of internal control reviews, ORD is limiting the discussion in this section to the reviews discussed below.

Key reviews for the risks associated with accomplishing objective 3.3 Prioritize Robust Science in the FY 2018-2022 Strategic Plan that could significantly impact ORD's operations are identified in ORD's Internal Control Inventory (Attachment A).

Reviews over Programmatic Operations

Below are the results of reviews of internal controls over programmatic operations completed:

Improve Progress Toward Strategic and Management Goals

ORD continuously looks for ways to improve our effectiveness, efficiency and accountability for both strategic and management goals. One key effort is implementation of the Enterprise Lean Management System (ELMS). ORD's goal is to progress from a project-based Lean approach to full ELMS implementation. ORD's on-going ELMS efforts have initially centered around establishing key measures of performance as we simultaneously work to create a ORD-wide Lean culture of continuous improvement. ORD has the unique challenge of implementing this framework within a research environment. We are in the process of enlisting support of individuals or organizations that have had experience with ELMS in a research environment.

The foundation of ELMS is measuring the right things to ensure that ORD is accomplishing its goals. ORD senior leaders established Mission Measures that not only measure ORD's progress toward both strategic and management goals but cascade from the agencies strategic measures. ORD facilitates the revision, collection, analysis and reporting of Mission Measures through its Monthly Business Review (MBR) process. MBRs have been key in ORD's early implementation of ELMS. At the MBR meetings, ORD's senior leaders (Executive Council) review performance metrics related to Mission Measures, improve the metrics and discuss opportunities to improve ORD's Program operations and business processes. ORD-wide MBRs have been held since December 2017. All LCOs are now conducting monthly business reviews prior to each ORD-level MRB to prepare their senior leaders and to monitor programmatic and administrative performance specific to their organization.

Because of these Lean efforts, ORD is achieving improved performance. For example, for over a year, ORD struggled to publish all datasets associated with journal articles. As of April 2018, ORD was at just under 50% compliance for journal articles published in FY 2018 and had accumulated an unpublished backlog of over 70 datasets. With countermeasures and the monthly focus on the metric, ORD met its monthly target of publishing 100% of the required data sets in May 2018 for the first time and brought the FY 2018 unpublished backlog down to single digits.

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While ORD since slipped below its 100% target, ORD has made significant progress and continues to make publication of data sets an area of focus at Monthly Business Reviews.

Ensure ORD's Research Priorities Align with Agency Priorities and Stakeholders Needs

In FY 2018, ORD's six national research programs initiated an update of our Strategic Research Action Plans (StRAPs) for FY 2019 – FY 2022 to ensure our research portfolio is well formulated, focused on priority issues and align with agency priorities and stakeholder's needs.

ORD's research portfolio is carefully designed to meet the applied needs of the Agency and the Nation. ORD maintains continuous interaction with EPA program offices, regions, and the states (including the Environmental Council of States (ECOS) and the Environmental Research Institute of the States (ERIS)) while setting the strategic direction, establishing the research agenda, and implementing its research. To develop the StRAPs, ORD frequently engages our program and regional office customers to identify the most important environmental challenges and their relative importance to the partners and the Agency. Typically, a list of priority issues is developed by the program offices and regions and ORD works closely with them to understand the specific environmental problems and to determine the best scientific approaches for investigating and solving them. Finally, ORD identifies which problems ORD can address and negotiates with the partners to identify the which problems ORD will address and what research outputs ORD will provide.

In FY 2018, ORD developed a template to formally request assessments under its Integrated Risk Information System (IRIS) program. This provides a greater certainty between ORD and the Programs on the type of assessment needed and how that assessment will benefit the program. Additionally, on August 10, 2018, ORD solicited program input on priorities for future IRIS assessments as well as the chemicals currently on the IRIS agenda. This request was part of ORD's continuing effort to ensure IRIS assessment activities are focused on the most important Agency needs.

Because each partner operates differently and has different needs, we engage with each one of them differently. In most cases these engagements are with a single partner but are often inclusive or coordinated with multiple partners. Below is a description of the different partner engagements:

- EPA program offices - a series of meetings are carried out between ORD leadership and program office senior leadership.

EPA regions – ORD works through the Agency lead regions. These lead regions coordinate the gathering of information and consensus development with respect to research needs and priorities. ORD includes lead region representation in program office engagements.

- States - ORD engages state Commissioners, Directors, and Secretaries through the ECOS. These engagements are coordinated with EPA program offices and regions. There are standing semi-annual meetings with ECOS and its research arm ERIS, as well as frequent engagements around the state needs, ORD capabilities and results. ORD also engages states on their environmental research needs related to public health through the

Association of State and Territorial Health Officials (ASTHO). Additionally, ORD hosts state and tribal environmental agency leaders and staff to visit ORD labs to learn about EPA's research, meet ORD leadership and scientists, discuss state research needs, and see first-hand some of the innovative work being done by ORD researchers. The objective for these meetings is to learn more about the environmental challenges states and tribes are confronting, and to make EPA research and applied science tools more accessible to states to support our joint efforts to protect human health and the environment. Recent meetings include: Region 4 Southeastern and neighboring states' visit to EPA Research Triangle Park, NC in August 2017; Gulf Coast states' visit to EPA ORD's Gulf Breeze, FL lab in September 2017 and May 2018; Region 5 Midwest and neighboring states' visit to EPA Cincinnati in February 2018; Region 1 New England states' visit to EPA ORD's Narragansett, RI lab in June 2018; and Region 6 South Central states' and Oklahoma tribes visit to EPA ORD's Ada, OK lab in August 2018.

ORD's Strategic Research Action Plans will be reviewed by the independent Board of Scientific Counselors (BOSC) and finalized in FY 2019.

Complete Pilot Evaluation of ORD's First-Ever Strategic Measure

Working with EPA's Chief Operations Officer, ORD identified our strategic measure: *"By 2022, increase the number of ORD products meeting customer needs"* as part of EPA's FY 2018 – 2022 Strategic Plan. To evaluate ORD's progress towards achieving this goal, EPA will report on this new strategic measure each year through 2022. This performance metric was defined in terms of three criteria: the quality, usability, and timeliness of a given research product.

This performance metric is unique to federal research institutions as it involves evaluating individual research products relative to the needs of the organization's key stakeholders. Because ORD had not previously identified the number of products that meet customer needs, ORD established a group to evaluate data sources and develop a baseline in FY 2018 for ORD's strategic measure. This group is made up of highly qualified senior managers and staff from across ORD Programs, Laboratories, Centers and Offices. The group recently completed a pilot program to evaluate methodologies for determining whether ORD research is "meeting customer needs" for our strategic measure. This study involved evaluating a small sample of products that were delivered in FY 2016. Analysis of the pilot data provided two key findings. First, the survey developed for this pilot study was successful in gathering information from EPA Program Office and Regional customers that can be used to assess ORD success in meeting the strategic goal. Second, the data that feeds the Strategic Measure could provide some key insights to ORD management on approaches that can improve ORD partner engagement and product utility.

At present, the survey is only distributed to EPA Program Office and Regional partners. ORD is considering the most efficient way to collect data from partners and stakeholders external to the Agency, however ORD will not be able to distribute surveys to individuals outside the federal government without OMB approval in the form of an Information Collection Review (ICR) approval. The process to obtain an ICR, which is required as a part of the Paperwork Reduction Act (PRA), is expected to take as much as 18 months and represents a significant risk to ORD's ability to collect full data to support its evaluation and reporting.

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ORD now has a data driven means by which to measure its effectiveness in providing research and tools that support work conducted by EPA's National Program Offices and Regions to carry out the Agency's mission. If ORD obtains approval for an ICR to survey non-federal partners and stakeholders, ORD will be able to expand its scope to evaluate the value of its work to support the work of State, Local, Tribal, and non-governmental partners. ORD's focus on improving the quality, usability, and timeliness of its research will result in more relevant and beneficial products for its partners and stakeholders. ORD will collect baseline data for End of Year FY2018 reporting and will use this data to set targets through FY2022. As ORD becomes more sophisticated in the implementation of the Enterprise Lean Management System, the group will continue to seek ways to develop a cascading framework of performance metrics that feed down from the Strategic Measure.

Demonstrate Compliance with Agency's Scientific Integrity (SI) Policy

In accordance with agency guidance, all LCOs have reviewed their efforts to ensure scientific integrity in FY 2018 and have electronically submitted the questionnaire that assesses ORD's compliance with the agency's SI policy. EPA's Scientific Integrity Policy establishes a framework to support a culture of scientific integrity, communication with the public, use of peer review and advisory committees, and development of agency scientists which is essential to our ability to fulfill our mission to protect human health and the environment. ORD is committed to promoting a culture of scientific integrity and reinforcing scientific and ethical standards by adhering to the Agency's SI Policy.

In Fiscal Year 2018, the Scientific Integrity Program (located in the Office of the Science Advisor) published a report on the results of an Agency-wide survey on scientific integrity. The results indicated that Scientific Integrity Policy implementation could be improved by increasing awareness and understanding of the Policy, further promoting a culture of scientific integrity, improving practices for releasing scientific information to the public, and promoting the professional development of EPA scientists and technical staff. To improve awareness of the Policy, in Fiscal Year 2018, the Scientific Integrity Program developed a mandatory training course on scientific integrity for all new EPA employees and has started to deploy a new module on scientific integrity designed for EPA managers.

The Scientific Integrity Program received new 21 inquiries regarding a potential loss of scientific integrity from across the Agency during this fiscal year (through August 22). The Program has closed 23 cases this fiscal year, as of that same date. This includes one allegation that was addressed using the Office of General Counsel's alternative dispute resolution contract.

Ensure Independence, Geographic Diversity and Integrity of Board of Scientific Counselors (BOSC)

The BOSC provides advice and recommendations to ORD on technical and management issues of its research programs. In FY 2018, EPA reconstituted the BOSC to:

- Strengthen member independence
- Increase State, Tribal and Local participation
- Enhance geographic diversity

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To facilitate the reconstitution, ORD created an online nomination form and submission process to track the success of the outreach strategy and provide real-time information on submissions. ORD led the review and evaluation of 431 applications and worked collaboratively with ORD senior leadership to finalize the BOSC membership rosters. A total of 42 new BOSC members and 27 reappointed members were added, resulting in a reconstituted BOSC that is balanced in terms of expertise, geography and affiliation. To effectively manage the BOSC, members were given an overview of their role and responsibilities as a board member. In FY 2018, a document was developed for members to further educate and answer questions on compensation, travel, and ethics and how the BOSC performs reviews. Also in FY 2018, ORD developed improved methods of tracking ethics requirements, start dates, and time and payroll information.

Use of Peer Reviews and Management Clearance Reviews Ensures High-Quality Research

During FY 2018, ORD continued to utilize peer review as a key internal control on the quality of the research conducted and the products resulting from the research. To validate products, ORD follows current peer review policies and procedures described in the EPA Peer Review Handbook, 4th Edition. ORD's peer review process includes internal technical reviews and the rigorous use of advisory committees such as the BOSC, the National Academy of Science and EPA's Science Advisory Board. ORD will continue to follow its rigorous peer review process described here to maintain its high-quality research products.

Also, it is ORD's policy that management conduct management clearance reviews of all scientific and technical work products. ORD's clearance routing includes not only managers but communication staff as well as quality assurance/peer review staff. These clearance procedures are managed through the ORD Scientific & Technical Information Clearance System (STICS). Between October 1, 2017 and August 1, 2018 ORD cleared 3189 new products (e.g. reports, journal manuscripts, abstracts, posters and presentations), an average of 75 products a week.

ORD currently offers training on peer review and management clearance to all employees. Everyone is encouraged to take the agency peer review training webinars provided by the EPA Office of the Science Advisor, as well as training that is provided by ORD's Peer Review Coordinator in 2018. ORD has a Peer Review Standard Operating Procedure Checklist to all showing the types of documentation that should be maintained in the peer review record.

Additionally, ORD encourages staff to take training offered on STICS which allows scientists to track the progress of the clearances, required for the release of the research products. Also, employees are encouraged to take training on PubMed Central and ScienceHub to ensure they are aware and provide access to scientific information.

Strengthening Tracking of Technical Support

For years ORD has run five Technical Support Centers. These centers play a critical role in the Agency's work to protect the environment and public health by responding to requests for technical assistance from EPA's program offices and regions at Superfund, Resource Conservation & Recovery Act (RCRA), and Brownfield sites. However, in addition to this technical support and beyond the research conducted under our StRAPs or through regional science program activities, ORD scientists provide critical technical assistance to customers in other ways. To better characterize some of these activities, ORD developed TechTracker, an online, SharePoint tool where ORD scientists record their technical support activities that fall outside of StRAPs, Regional Science Program, and the five Technical Support Centers.
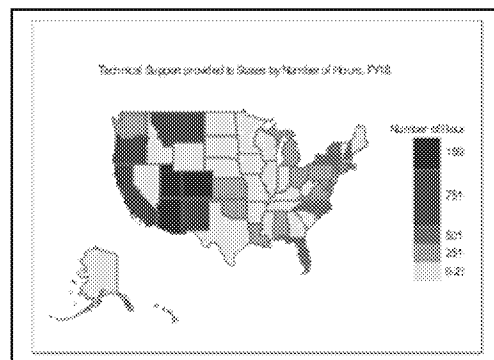
Through the third quarter of Fiscal Year 2018, 441 ORD scientists provided more than 33,000 hours of technical support to EPA, states, and other partners. This support was provided to all major EPA program offices, all ten EPA regions, all U.S. states and territories, as well as numerous federal agencies, educational institutions, international agencies and other partners.

As an example of assistance ORD has provided, in April 2018, a residential fire occurred in the city of Wyoming, OH, and during this event, fire-fighting foam was back-streamed into the Wyoming Public water supply. Some residents reported foaming water at their drinking water tap. At the request of Ohio EPA, ORD conducted analyses of Wyoming, OH, drinking water samples using EPA Method 537, an established EPA method. ORD provided a summary of results and assisted with the local government's decision about lifting a "do not drink" advisory. According to TechTracker data, 48 hours of support was given for this short-term project.

Enhance Focus Improves ORD's Regional Science Program

ORD's Regional Science Program emphasizes building partnerships between regional and ORD scientists, effectively transferring research results on high priority regional issues, and providing technical assistance to states. Under the program, the Regional Applied Research Effort (RARE) program responds to high-priority, near-term research and methods development needs of EPA's regional offices. In FY 2018, ORD reviewed its process of providing Regional Applied Research Effort (RARE) funds to ORD's labs and centers. Following that review, ORD instituted a change in the RARE funding process that requires fewer steps in the approval process, expedites processing time, and provides labs and centers with greater control over the funding for the projects.

Also in FY 2018, ORD launched a pilot to enhance state engagement in Regional Science Program activities. In May 2018, ORD hosted the Regional-ORD Community of Science Networking (ROCS-Net) Program, which provides an orientation and networking opportunity for regional scientists and engineers who have limited familiarity with ORD. For the first time,

state scientists (one from each region) were also included in ROCS-Net to further expand the community of science between ORD, the regions, and the states. This event has successfully expanded regional-state-ORD awareness of and collaborations on high priority science issues.

Certify Compliance with Quality Assurance (QA) Controls

ORD's Senior Information Official (SIO) has reviewed and certified that ORD has appropriate internal controls to ensure that environmental data supporting our technical products are of sufficient quantity and adequate quality for their intended use. During FY 2018, ORD made the following improvements to its QA program:

- Updated the ORD Quality Management Plan which was reapproved by OEI during November 2017.
- Revised the ORD Policy and Procedure Manual, Chapter 13 *QA* to facilitate the adoption and use of common QA processes and best practices across ORD.
- Completed nine laboratory competency assessments of ORD laboratories.
- Hosted a National QA Training Conference in October 2017 that allowed participants to learn additional skills, and maintain current awareness of QA issues.
- Determined that Per- and polyfluoroalkyl substances (PFAS) related research requires ORD's most rigorous QA approach (i.e., QA Category A).

Robust Internal Controls Identify Data Concerns

During FY 2017, serious analytical data concerns were identified by a contracting officer representative (COR) and the contractor, Pegasus Technical Services, Inc. A quality audit was conducted by ORD's Quality Assurance Managers (QAMs) to determine the extent of data quality issues on a work assignment under the ORD Risk Management and Ecological Exposure Research (RMEERs) mission support contract. Because of the audit, improvements by both EPA and the contractor were instituted. For example, mandatory training held for over 120 contractor and EPA staff focused on the same consistent message about the importance of QA and proper contracting procedures. Given this contract is now an ORD contract (rather than being split amongst different Labs and Centers), a common set of ORD QA requirements is being implemented. Resolution of four remaining open findings is anticipated this year.

Complete National Security Information (NSI) Annual Inspections

In accordance with Executive Order 13526 "Classified National Security Information" and Information Security Office 32 CFR 2001, ORD's NSI Representative conducted two required annual inspections on the management of ORD's NSI program and the secured accredited space in Washington, DC.

- *Management of ORD's NSI Program* – Using the Annual Self-Inspection Checklist, this inspection evaluates ORD's NSI program management, security incidents, classification management, safeguarding, destruction, transmission, and training. The self-inspection was completed by the NSI Representative in September 2017 and submitted to EPA's NSI Team for review. The NSI Team reviewed the self-inspection and made three

recommendations to strengthen ORD's program and ensure compliance. ORD immediately initiated corrective actions to address all 3 recommendations.

- *Annual Accredited Space Physical Security Inspection Checklist* – This inspection evaluates the security of accredited spaces. NSI Representatives are asked to inspect all components in and surrounding the accredited space to ensure classified materials and conversations remain safeguarded. No irregularities or evidence of breach/tampering were found during this inspection.

Robust Security Program Management Results in Zero Security Incidents

ORD maintains dynamic programs in information security (INFOSEC), communications security (COMSEC), personal security (PERSEC) and acts as a Trusted Agent for the Homeland Security Data Network (HSDN). In FY 2017, ORD had no security incidents and no reports of unsafe practices, and none to date in FY 2018. The ORD Security Team manages the largest inventory of classified information in the Agency, and manages two Open Storage Secure Access Facilities (SAFs) and one Closed Storage SAF. Also, the team manages 10 Homeland Secure Data Network (HSDN) workstations distributed between Cincinnati and Research Triangle Park (RTP). The team assures security and full accountability of resources through fully developed Standard Operating Procedures (SOPs), chain of custody procedures and two-person control of security assets.

In 2017, the Security Team conducted the following reviews and actions:
- *Annual destruction of unneeded classified inventory* - The Security Manager has conducted a review of all classified holdings with the knowledgeable researchers to determine which holdings no longer serve a government purpose and can be destroyed.
- *Revision of authorized access lists* - Access lists for accredited secure areas, Agency classified systems accounts and accounts for the HSDN, have been revised based on usage and underutilized accounts have been closed.
- *Annual Self-assessment* - The Security Manager assessed the SAF in Cincinnati and Erlanger and directed the self-assessment in RTP for reaccreditation of the spaces. All SAFs have been reaccredited.

Lean Events in ORD in FY 2018

STAR Grants

ORD held a multi-day Lean event of all phases of the STAR business process (Request for Applications (RFA) production, funding, and grants management) in FY 2018. Recommendations were delivered to management and are in various stages of implementation (from pilot testing to completion). Using recommendations from the STAR Lean event, ORD significantly reduced the time to process two new RFAs from development of the research concept to posting by the Office of Grants and Debarment from approximately 90 days to 34 days.

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Unliquidated Obligations

In June 2018, ORD conducted an enterprise-wide Lean event of unliquidated obligations (ULOs) to assess the systems and processes associated with ULOs and the impact that they have on the lapsing of appropriated resources. The ULO Lean event identified several potential enhancements including improvement of the annual spending plan development process for organizations across ORD, improving communications and reporting and continual improvement of all business processes that can contribute to the improved management of ULOs and a corresponding reduction in the occurrence of lapsed funds. ORD has also accelerated its ULO reviews from quarterly to monthly to enhance the possibilities of saving and reusing the contract funds. The result of these efforts is a continued decline in the amount of Agency Expiring Funds. For example, at the end of FY 2016, ORD had $129.7 million in expiring funds ULOs. As we approach the end of FY 2018, the amount of expiring funds ULOs has dropped to $26.7 million. This 79% reduction in the amount of ULOs points to the improvement of overall resource management, and indicates that future loss of resources through the lapse of funds will be reduced as well.

Non-Federal Provisioning/Deprovisioning Process

After an internal review identified excessive delays and potential physical and IT security vulnerabilities with our deprovisioning process for separating Federal and Non-Federal staff separating from ORD, ORD charted a Lean event to look for efficiencies and cost savings. The Lean event identified several improvements including:

- Including language in all EPA extramural vehicles requiring immediate notification to the COR/PO/etc. of departures.
- Drafting policy and procedures for onboarding and offboarding employees.
- Training responsible parties on the key provisioning systems and their responsibilities.
- Developing a monthly report to track ORD's process in reducing time between departure and cancellation of badge and accounts.

These improvements will help staff to deprovision IT accounts and equipment in a timely manner, which will save ORD the monthly expenses associated with open accounts, and will provide staff with more accurate non-Federal personnel data across EPA systems. Timely deprovisioning will also reduce ORD's security risks related to open and unused accounts.

Purchase Cards

In FY 2018, the Shared Administrative Resources Group in ORD conducted a Lean event of purchase cards resulting in the elimination of 4 process steps. Overall, the team found that the issues were miscommunication, number of errors, a lack of standard operating procedures (SOP) and clear roles and responsibilities. By creating SOPs and clarifying roles, ORD is anticipating saving about 3 days from the total process time and improving the percent of complete and accurate forms by 56%. This is significant because ORD is a large user of purchase cards particularly for laboratory supplies and chemicals.

Lab Enterprise

In the Fall of 2017 a Kaizen workgroup was established to develop and implement an enterprise-wide operating framework to enable the agency to optimize the use of laboratory space, equipment and personnel to better meet the scientific and technical needs of EPA and its state, tribal, and local partners. The anticipated impacts include a significant reduction of square feet and annual operational costs and more consistency, efficiency and collaboration across EPA laboratory enterprise. Additionally, ORD, working with laboratories across the Agency, has completed a comprehensive inventory of capital equipment and will be looking for opportunities to better utilize this equipment across the Agency.

Emerging Contaminants

Assessing the implications of emerging contaminants (ECs), once identified, is an ad-hoc and inefficient process across Program Offices, limiting the Agency's ability to provide timely and meaningful information. A July 2018 Lean event was held to address these concerns and develop a responsive risk screening process that would engage a cross-agency team with risk assessment experience relevant to risk screening and support a singular Agency answer for identified ECs.

The event resulted in the development of an EC Strategy that includes the Screening Risk of Emerging Contaminants **(SIREN)** process. The process is based on existing Agency approaches. SIREN uses available information to inform the initial Agency determination concerning future actions to address the concern of the public: "Is it safe?" within 6 months of the EC being identified. The team is currently working on finalizing standard work practices to implement to process by January 2019.

Changes to ORD's Freedom of Information Act (FOIA) Review Process

After an FY 2018 release of potentially exempt FOIA information, ORD needed to improve the quality, transparency, effectiveness and timeliness of its FOIA responses. As a result, ORD centrally organized the management function of its FOIA response process and increased the knowledge, skills, and abilities of the staff engaged in the processing and responding to FOIA requests. Centralization of the FOIA process was accomplished by putting all FOIA processing functions under the authority of a single Senior Executive Service position and requiring all decisions on assignment, processing or release of information flow through that office.

ORD also issued an interim policy in August 2018 and is now in the process of finalizing it. The policy aims to maximizes ORD's effectiveness in meeting all its FOIA obligations in a legally compliant, timely, and efficient manner. The policy defines roles and responsibilities and clarifies critical elements in the FOIA process.

To increase the FOIA knowledge, skills, and abilities throughout ORD, a training plan was developed to provide comprehensive FOIA training to all ORD staff involved in the FOIA process. ORD's FOIA training plan is currently being implemented. ORD completed FOIA training for it senior leaders (Executive and Management Councils) in July 2018. ORD plans to maintain this organizational knowledge by requiring periodic FOIA training for the all ORD senior leadership and the FOIA Liaisons.

Concurrent to all this activity, the FOIA Team is actively working to reduce ORD's backlog of FOIA requests. In a 30-day period, 7 cases were administratively closed or voluntarily withdrawn, 9 cases transferred to the correct National Program Office and 16 cases assigned to LCOs. ORD has received feedback on its updated FOIA program from the Office of General Counsel (OGC) Chief FOIA Officer on July 10, 2018 stating that our actions ensure "that ORD is processing FOIA requests appropriately." ORD has committed to keeping OGC informed of our continued progress and just last month, ORD stood up a FOIA process flow board in its front office.

Review of Annual Government Performance and Results Act Performance Commitments

As part of our internal controls, ORD facilitates the Government Performance and Results Act (GPRA) program performance evaluation, review and reporting process. ORD's Office of Science Information Management (OSIM), the Labs and Centers, and the NPDs track data that informs ORD's program performance measures. The process is intended to evaluate the performance and effectiveness of ORD's national research programs. The process includes a semi-annual review of the performance measure progress, then an End of Year review. The results of these reviews are included each year in the Agency Annual Performance Report. The most recent review found that ORD met its targets on 12 of its 15 GPRA Measures.

Oversee Safety, Health, and Environmental Management (SHEM)

ORD's research facilities report compliance with both ORD and the agency's Safety, Health, and Environmental Management (SHEM) guidance and policies, which include regular inspections, audits, and annual mandatory Health and Safety (H&S), and Environmental Management Systems training. There are no known open occupational, safety and health notices of violation at any ORD management sites.

Health and Safety

In each of ORD's campuses, the Office of Administration and Resource Management (OARM) completes comprehensive safety, health, and environmental management audits of the activities performed. Audits are designed to verify compliance with safety, health and environmental requirements; evaluate the effectiveness of safety, health and environmental management systems already in place; confirm that corrective actions identified because of previous site audits have been appropriately implemented; and assess risks from regulated and unregulated materials and practices.

In July 2017, OARM completed a comprehensive safety, health, and environmental management audit of the activities for the ORD Gulf Breeze, Florida location. OARM has not issued the final report of findings.

Environmental Regulatory Compliance

For FY 2018, four environmental regulatory compliance training courses were provided via webinar to all ORD laboratory locations. These courses provide competency training for the ORD SHEM and Facility Manager staff to ensure they are aware of the basic environmental

regulatory requirements as related to the operation of ORD's research laboratories. These courses were "Hazardous Waste Management – RCRA's New Generator Improvements Rule"; "DOT Hazardous Material Shipping Refresher"; "Stormwater Management"; and "Implementing National Environmental Policy Act (NEPA). These training courses were selected to support the ORD staff undertaking the renovations, consolidations, and decommissioning activities currently underway across ORD.

Environmental Management Systems (EMS)

As environmental stewards, ORD makes a commitment to protect the environment and demonstrate this value in our research and development activities. An Environmental Management System is a process in which activities are managed to lessen their environmental impacts. Resource management is the key including the purchase, use and disposal of resources. It is a circular process in which processes are evaluated, monitored and modified or improved to lessen environmental impacts.

Since FY 2010, ORD has operated the largest multi-site EMS within the agency made up of facilities located in Narragansett, RI, Gulf Breeze, FL, Athens, GA, Las Vegas, NV, Duluth, MN, Ada, OK, and Corvallis, OR. In early FY 2018, ORD met with OARM to discuss the future of ORD's multi-site EMS due to the forecasted consolidations occurring across ORD and the decommissioning of Las Vegas. The agency agreed to "shutter" ORD's multi-site EMS system (while still reporting sustainability performance) until a future time when ORD laboratory consolidations have been finalized. ORD will continue the implementation of both facility level systems in RTP and Cincinnati. A triennial EMS Declaration of Conformance Audit was conducted in RTP and Cincinnati, Athens, RTP Central Office, and Ada in FY 2018. These audits are conducted to ascertain whether the EMS is properly implemented and continues to conform to planned arrangements for environmental management. All sites demonstrated EMS success in their conformance audits.

Reviews Ensure Effective Resource Management

According to EPA Order 1130.2A, the Senior Resource Official (SRO) is accountable for effective resource management. This includes the development and administration of all contractual, interagency agreements and assistance vehicles. ORD's extramural package review process primarily focuses on compliance with Federal and Agency Regulations and Policies, as well as ORD's own policies, procedures, and guidance which governs the processing, award, and administration of all extramural instruments. ORD's oversight activity assures that all extramural actions are of the highest level of quality and compliance regarding all governing regulation, policies, and procedures. As of August 2018, ORD's SRO and staff have reviewed a total of 90 actions totaling approximately $150,076,828 dollars.

Review of Policies and Procedures Manual Resulted in Numerous ORD Policy Updates

Since 2016, ORD has been updating its entire portfolio of policies, procedures and delegations. Of ORD's 84 policies, 40 have been reviewed and updated, 34 have been rescinded, and 3 new policies have been established where gaps existed. Work on the remaining 11 policies is due to be completed by the end of FY 2018. In addition, ORD established a new streamlined process for

developing, establishing and issuing policies. Finally, the development of a web-based policy information tool was created to enhance users' ability to locate specific policy information more efficiently and ensure that policies remain current. Work on the tool is due to be completed by September 2018.

Review of Guest Worker Program

ORD conducted an internal review of its Guest Worker program. The purpose of this review was to determine whether ORD was properly maintaining guest worker documentation as required by ORD's Guest Worker policy. Opportunities were found to improve how ORD maintains guest worker documentation for the 35 guest worker agreements in place at the time of the review. In addition, ORD management was briefed on the outcome of the review in Q1FY18 and was reminded of the importance of maintaining guest worker documentation at that time. After that review, ORD later determined that the Guest Worker program was duplicative of other programs in ORD (e.g., Outside User program). As a result, ORD has been phasing out the program. As of August 2018, only two guest workers agreements are in place and the agreements will expire at the end of the fiscal year. At the completion of these remaining agreements, ORD will rescind the governing ORD policy and updating ORD's Outside User policy.

ORD's Office of Inspector General (OIG) and Government Accountability Office (GAO)

ORD's internal controls are sufficient for audit management and compliance with EPA Manual 2750, Audit Management Procedures. As of August 2018, ORD facilitated 34 audits with Government Accountability Office (GAO) and Office of Inspector General (OIG); coordinating ORD responses to audit recommendations and tracking 19 corrective actions. The Agency's audit management tracking system (MATS) demonstrates ORD's continued compliance with EPA Manual 2750, as it reflects the status of all corrective actions.

To ensure full compliance with 2750, ORD regularly distributes audit tracking charts to senior managers to facilitate open and frequent communication between staff and management. High profile audits are discussed during weekly senior management meetings on an as needed basis. The audit tracking charts are a reference for updating the status of an audit's corrective actions in MATS. On a quarterly basis, ORD reviews our entire audit portfolio in MATS and updates accordingly. Further, ORD produces timely semi-annual status updates to the OIG and GAO on ORD's open report recommendations.

ORD programs are addressing 19 corrective actions in response to the following GAO and OIG reports:
- OIG Report #OPE-FY18-0002, *EPA Needs a Vision and Strategy for Citizen Science that Aligns with Its Strategic Objectives on Public Participation*
- OIG Report #OA-FY17-0156, *EPA's Laboratory Fellowship Cooperative Agreements Funded Foreign Nationals*
- OIG Report #17-P-0378, *Management Alert: EPA Should Promptly Reassess Community Risk Screening Tool*
- OIG Report #17-P-0174, *EPA Needs to Provide Leadership and Better Guidance to Improve Fish Advisory Risk Communications*

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- GAO Report# 08-440, *Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System*
- GAO Report# 12-42, *Chemical Assessments: Challenges Remain with EPA's Integrated Risk Information System Program*
- GAO Report# 13-369, *Chemical Assessments: An Agency wide Strategy May Help EPA Address Unmet Needs for Integrated Risk Information System Assessments*
- GAO Report# 17-453, *Small Business Research Programs: Most Agencies Met Spending Requirements, but DOD and EPA Need to Improve Data Reporting*
- GAO Report# 18-207, *Small Business Research Programs: Agencies Need to Take Steps to Assess Progress Toward Commercializing Technologies*

Additionally, the OIG conducted an audit on the Safe and Sustainable Water Resources Research Program (SSWR) this past year, which produced no recommendations in the OIG Report #18-P-0151, *EPA's Safe and Sustainable Water Resources Research Program Is Delivering Timely and Relevant Data to Office of Water.*

Reviews Over Financial Activities (OMB Circular A-123)

Below are the results of reviews of internal controls over financial activities completed in FY 2018.

Ensure Quality Control for Financial Transactions

ORD utilizes standard operating procedures for monitoring and reporting processes on all financial transactions, reprograming of funds, close-out procedures for expiring funds, process to commit funds, responsibilities of Funds Certifying Officer (FCO), and cite the need for special approvals. In all financial transactions, the Anti-Deficiency Act, OMB Circular A-11, and the Chief Financial Officer's Act (1990) are adhered to closely. Additional quality control measures include a six-month training program for FCOs on appropriations, appropriations law, funds control, budgetary accounts reconciliation, financial systems, budget analysis and decision support. Training completion is required before an FCO certification letter is received. FCO's also undergo Agency financial policy training on an annual basis.

Review Unliquidated Obligations for Expiring Funds Identified No Deficiencies

ORD confirms no deficiencies or weaknesses were identified during a review of unliquidated obligations (ULOs) for expiring funds. Sufficient internal controls are in place and functioning adequately to ensure funds are being de-obligated in a timely manner. During FY 2017, ORD created an initiative to assess ORD ULOs. The focus included the following: development and delivery of ULO training for ORD administrative and program staff, and a targeted assessment of existing areas of concern. The findings from the assessment addressed several instances where expired or expiring funds were not being used. An agreement was reached with the finance center to address this issue. In FY 2018, the program evolved to include development of a standard report that identifies procurement ULOs by organization down to the task level, and a monthly reporting cycle to gather and update ULO status via the reporting tool. ORD's ULO and

lapsed fund rates are dropping consistently, and the dissemination of this data for both senior management and staff is a key component in attaining this result. This effort is integrated with other ORD efforts, such as the implementation of a management dashboard to ensure that information remains readily available, timely and consistent.

Complete Purchase Card Reviews

ORD management certified that the Approving Officials (AOs) have completed the Annual Assurance Memorandum (AAM) certifying that the AO has performed a 100% review of all Cardholder (CH) transactions under their purview; AO duties and responsibilities have been performed in accordance with Environmental Protection Agency Acquisition Guide (EPAAG) 13.3, and compliance with all other applicable federal and agency policies and regulations.

ORD's team of extramural specialists work with Office of Chief Financial Officer (OCFO) to track purchase card unliquidated obligations. In addition to the EPA Acquisition System reports, ORD uses the newly established ORD Analytics Dashboard, OCFO's new ULO tool, the Compass Data Warehouse, and assistance from Funds Control Officers to monitor unliquidated obligations. This process has allowed ORD to monitor vendors invoices in a timely manner, utilize funds efficiently to support scientific mission timelines, and more importantly, ensure there is no loss of expiring funds as a matter of policy with respect to purchase card use.

GAO's Standards for Internal Control Standards and Principles (Attachment B)

ORD has successfully documented compliance with GAO's Standards for Internal Control Standards and Principles. ORD developed and used an effective Standard of Internal Control (IC) program in compliance with GAO's five standards and 17 principles that evaluate and document the effectiveness of the office's ICs over programmatic, administrative and financial activities.

The control environment is the foundation for ORD's internal control system and provides discipline and structure for the organization. ORD's operating style and commitment to strengthening internal controls is clearly demonstrated in its ethics activities, dedication to competence, delegations of authority and collaborations with external oversight groups. For instance, ORD has identified potential risks, and where possible, ORD established and executed controls that address the high, mid, and low-level risks to continue to achieve its objectives, and to prevent future risks. In addition, ORD management uses both internal and external reviews to evaluate internal controls. Then, ORD delivers corrective actions to address any deficiencies, providing a necessary complement to the control activities for ORD to achieve its objectives.

Finally, ORD is mindful that effective information and communication is vital for ORD to achieve its objectives. Consequently, ORD's communications staff primary goal is to share ORD's science effectively and widely in accurate, accessible and understandable language and products. The communications staff continues to be successful in meeting their goal which is supported by their numerous accomplishments and statistical results. See attachment B for the completed form.

<u>Review of Compliance with Financial Management Systems</u> (Attachment C)

ORD Management Information System – The Federal Aviation Administration (FAA) Enterprise Services Center (ESC) Information Security Assessment Group performed an assessment of the ORD Management Information System (OMIS) from July 2017 through September 2017, and an FY 2018 Assessment is planned for late this year. System vulnerabilities found during the annual Federal Information Security Management Act (FISMA) Risk Management Framework (RMF) control assessment and information system authorization activity is tracked as Plans of Actions and Milestones in the Agency's official Information Assurance Management System, Xacta IA. The vulnerabilities identified are not Agency-level significant deficiencies or material weaknesses. See attachment C for the completed form.

<u>ORD LEVEL WEAKNESSES/MANAGEMENT CHALLENGES</u>

Streamlining EPA's Process for Developing Chemical Assessments Under IRIS
As an update to the office-level management challenge, *Streamlining EPA's Process for Developing Chemical Assessments Under IRIS*, the Integrated Risk Information System (IRIS) program continues to make significant advancements in critical scientific and program management areas that serve to address the remaining open GAO recommendations and to fully resolve the GAO's high-risk designation of the IRIS Program in 2019. Specifically, progress in addressing GAO's open IRIS recommendations identified in the following *Chemical Assessment* Reports: GAO-08-440; GAO-12-42; GAO-13-369, and in GAO's 2017 High-Risk Report is noted below:

Systematic Review Advancements

Since January 2017, IRIS has been working to modernize its workflow. Meetings with the EPA Science Advisory Board (SAB, August 2017), the EPA SAB Chemical Assessment Advisory Committee (September 2017), and the National Academy of Sciences (NAS, April 2018) showcased the demonstrable progress made by IRIS. EPA continues to implement changes that will improve the efficiency of conducting systematic reviews that are done during assessment development. Efficiencies adopted in FY18 include the incorporation of automated and machine learning software tools to better facilitate the screening of studies for inclusion in an assessment and use of Health Assessment Workspace Collaborative (HAWC) tool to more efficiently extract data from studies used to inform assessment development. Utilizing the "train the trainer" approach, a team of IRIS Program staff have facilitated specific trainings and retreats to disseminate knowledge of best practices when using these tools. The results of these efficiencies are currently described in the standard operating procedures contained within the draft IRIS Handbook and are publicly demonstrated in refined scoping and problem formulation documents and preliminary assessment materials. EPA anticipates releasing the draft IRIS Handbook publicly in FY2019. In early 2018, the National Academy of Sciences (NAS) reviewed the progress made by the IRIS program and concluded: "Overall, the committee was impressed with the changes being instituted in the IRIS program since the 2014 report. … The change in NCEA and IRIS leadership has led to substantive reforms, and there is strong evidence that systematic review methods are being developed and implemented and that there is a commitment to use systematic-review methods to conduct IRIS assessments."

Using a Portfolio Approach for Assessment Development

In the last year, IRIS has moved away from one-size-fits-all assessments to a mixed portfolio of chemical evaluation products, with the following objectives:

- Produce targeted assessments with focus on the science specific to decision needs. These products will be shaped for use by several partners, including EPA's national and regional program offices, the states, tribes, and other Federal agencies.
- Optimize the application of systematic review best practices along with automation tools to promote greater throughput and higher productivity overall.
- Increase opportunities for public engagement, thereby mitigating later stage controversies.
- Develop a flexible and efficient way to draw on new data streams and create a continuum of risk assessment products to better meet the needs of stakeholders and decision makers.
- When possible, build on existing assessments developed by other authoritative government agencies.
- Leverage project management principles and software to develop assessment schedules that reflect all project tasks and staff.
- Significantly increase the speed, transparency, and access to assessment products and democratize the process for all stakeholders impacted by decisions.

This portfolio approach is a fundamental departure from the previous approach to assessment development within the IRIS Program, which had generated the GAO recommendation. The portfolio approach will allow IRIS to remain flexible and responsive to customers within EPA, as well as the diverse stakeholders beyond EPA, including states, tribal nations, and other Federal agencies. The 2018 report of NAS, Progress Toward Transforming the Integrated Risk Information System (IRIS) Program, indicated: "The move toward a portfolio approach appears to add need-based and context-based flexibility to the IRIS program. . . Overall, the portfolio approach is expected to conserve agency resources, and it is consistent with the recommendations of the National Academies report, Science and Decisions: Advancing Risk Assessment (NRC 2009)." The IRIS Program is working to address these recommendations and provide updated information on assessment timelines.

Reflecting Agency Priority Needs

On August 10, 2018, ORD solicited program input on priorities for future IRIS assessments as well as the chemicals currently on the IRIS agenda. This request was part of ORD's continuing effort to ensure IRIS assessment activities are focused on the most important Agency needs. To request an IRIS assessment or to confirm a program's continued interest in the assessments that are underway within IRIS, programs were requested to complete an IRIS Assessment Request Form and submit to ORD by August 31, 2018. Regions were requested to submit their IRIS requests through the respective EPA program.

In addition, the IRIS Program regularly engages with EPA program and regional offices to identify upcoming assessment needs as well as evaluate their need for existing assessment products in the IRIS pipeline; their priority or urgency; and any other additional considerations that would inform

assessment development. IRIS provides routine updates and engages program and regional offices throughout assessment development during monthly EPA-wide calls. These calls serve two purposes, providing program and regional offices timely information on assessment status, and providing IRIS real-time information on EPA program priorities. This allows IRIS Program management to be aware of changes in EPA program needs resulting from high-priority regulatory developments, and ensures that IRIS has the capability to respond in a timely way to emerging Agency needs (e.g., per- and polyfluoroalkyl substances). Information on assessments under development as well as updates to IRIS Program activities are made available to the public on EPA's IRIS website (www.epa.gov/iris).

Using Program and Project Management

EPA has begun implementation of program and project management initiatives across all assessment teams in IRIS. As a part of these initiatives, EPA has developed an internal IRIS Program Management Plan (PMP), which describes the overall IRIS Program governance, outlines roles and responsibilities, and summarizes the operational processes used by the Program while developing high-quality health assessment products. This document is intended to promote consistency and ensure all staff and managers are familiar with processes of interaction and decision-making within the IRIS Program. Additionally, the IRIS Program has fully integrated the use of project management and business intelligence software to assist assessment project managers and supervisors in developing project schedules, assigning resources, tracking progress, and analyzing workloads. Incorporation of governance documents and project management software allows staff and managers to identify gaps in necessary expertise, monitor assessment-specific tasks, determine capacity to meet EPA client needs, and more accurately predict timelines for the completion of assessment products. The development and incorporation of these resources not only address specific recommendations pertaining to short- and long-term programmatic planning, but also serve as tools to enhance the development of assessment products long-term.

Next Steps

In 2018, ORD anticipates continuing discussions with GAO pertaining to open GAO recommendations, with the goal of closing all remaining open recommendations. Fiscal year 2018 serves as a critical year to demonstrate substantive progress to GAO. ORD plans to coordinate with GAO to evaluate the effectiveness of the strategies described above and to demonstrate progress to address remaining recommendations.

Expiration of Title 42 Special Hiring Authority

ORD continues to report the expiration of Title 42 authority as an agency-level weakness. The Title 42 hiring authority, originally granted to the Office of Research and Development in 2006, has allowed EPA to recruit and retain world-class scientists and science leaders to strengthen its research and development programs in support of public health and environmental protection. The outstanding scientists and science leaders hired under this authority have had a transformative impact on science; have improved EPA's capacity to investigate emerging environmental and health research issues; and have been called upon to help the nation deal with

high profile environmental issues. Most recently a number of our Title 42 scientists are playing critical roles in helping the Agency meet the numerous deadlines in the Lautenberg Act.

There are no alternative hiring mechanisms or authorities available to EPA that serve the function of Title 42 to recruit and retain world-class scientists and engineers. The ability to sustain workforce and retain expertise is at risk. Additionally, the National Academy of Sciences (NAS) strongly recommended that EPA be granted permanent Title 42 authority; however, current authority only extends through FY 2020. If the authority is not extended, EPA will be unable to effectively compete with private industry, academia, and other organizations for the exceptional talent needed to fill its most critical scientific positions. More importantly, the loss of the authority will severely limit ORD's ability to respond to environmental emergencies by hindering the ability to bring on critical expertise quickly.

NEW OR EMERGING ISSUES

At this time, ORD does not have any new or emerging issues which rise to the level of a material or agency weakness.

MANAGEMENT CHALLENGES AND POTENTIAL WEAKNESSES IDENTIFIED BY OIG, GAO, AND OMB

ORD does not have the lead for any of the EPA's FY 2018 management challenges or proposed weaknesses.

CLOSING

ORD's internal controls are effective and reasonably ensure the protection of our programs, operations, functions, and resources against waste, fraud, abuse, and mismanagement. For questions regarding this report, please contact Stefan Silzer, Director, Office of Program Accountability and Resource Management at 202-564-5389.

ATTACHMENTS

Attachment A   Internal Control Inventory
Attachment B   GAO's Standards for Internal Control Standards and Principles
Attachment C   Significant Financial Management Systems Processes

cc: Mary Ellen Radzikowski, Acting Associate Assistant Administrator
       Stefan Silzer, Director, Office of Program Accountability and Resource Management
       Jerry Blancato, Director, Office of Science Information Management
       John Steenbock, Director, Office of Administration and Research Support
       Maureen Hingeley, Management Integrity Lead, Program Accountability and Management
       Integrity Division

Internal Control Inventory – Office of Research and Development (ORD)

ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Strategic	Operations	Reporting	Compliance	Fraud
IOAA	BOSC Reviews	External Review of ORD's National Programs	FY2017	FY2019	X	X			
IOAA	National Security Information	Annual Self-Inspection Checklist; Annual Accredited Space Physical Security Inspection Checklist	FY2018	FY2019				X	X
OARS	Agency Purchase Card System	Self-Assessment of OARS compliance with Agency's Purchase Card Procedure Guidance	FY2017	FY2019				X	
OSA	FORUM ON Environmental Measurements	Organizational charter, action, plan and SOPs	FY2017	FY2020	X	X			
OSA	Scientific Integrity Allegations Process	General Process	FY2017	FY2019		X		X	
OSA	Ensuring Human Subjects Research Protocol Reviews	SOP, Regulations, Policies	FY2018	FY2020		X		X	
OSA	Increasing Public Access to Research Articles and Data	Public Access Plan	FY2018	FY2019	X	X	X		
OSIM	Information Security	Compliance with Federal and Agency information technology security policies and procedures. ORD SIO and ISO oversight	FY2018	FY2019				X	
OSIM	Quality Assurance	Compliance with Agency and ORD quality assurance policies and procedures	FY2018	FY2019				X	

ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Associated Risk Category				
					Strategic	Operations	Reporting	Compliance	Fraud
OSIM	Records Management	ORS SIO and Quality Assurance Director Compliance with Federal OMB/NARA directives and EPA records management policies and procedures ORD SIO and Records Program Manager oversight	FY2018	FY2019				X	
OSIM	ORD IM/IT Portfolio Review	CIO and ORD SIO oversight	FY2018	FY2019	X				
OSIM	Mobile Device Quarterly Management Review	Compliance with Agency mobile device usage policy ORD SIO and Working Capital Fund manager oversight	FY2018	FY2019				X	
OSIM	Deprovisioning IT Assets	ORD LEAN process, ORD policy, and monthly OSIM oversight	FY2018	FY2019				X	
OSP	Sustainable Workforce	Examine staffing needs, including priority needs and as assessment of retirement eligibility dates. Review of personnel required to submit OGS 450s. Ensure required OGE 450s and EPA3110-48s are submitted and reviewed.	FY2018	FY2019	X	X			
OSP	Compliance with OGE ethics requirements	Review process for ensuring that Special Government Employees are completing required ethics forms and training within appropriate timeframes. Review programmatic	FY2018	FY2019			X		
OSP	Regional Science Program	guidance for Regional Applied Research Effort and Regional Research Partnership	FY2018	FY2020	X	X		X	

ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Associated Risk Category				
					Strategic	Operations	Reporting	Compliance	Fraud
OSP	Superfund and Technology Liaison	Conduct analysis of common Superfund site clean-up issues and identify where science and technology can be applied to help advance these issues / Identify where technical support or short and long-term research are needed / Programs and revise as needed.	FY2018	NA	X	X		X	
OSP	Board of Scientific Counselors	Conduct internal review of procedures for management of the BOSC, including check lists and information provided to new Special Government Employees	FY2018	FY2020		X		X	
NCCT	Meeting Client Needs	Impact Project / Memorandum of Understanding / Product Communication Plans	FY2017	FY2019	X		X	X	
NCCT	Ensuring Data Quality	QA Manager / QA Workflow Team	FY2017	FY2019			X	X	
NCCT	Ensuring Data Availability	Dashboard / FTP site	FY2017	FY2019			X	X	
NCCT	Maintaining Adequate Research Facilities	OARM quarterly meetings	FY2017	FY2019	X	X	X		
NCCT	Oversight of Programmatic and Administrative Activities	Portfolio tool / Monthly Business Reviews	FY2017	FY2019			X		
NCCT	Sustainable Workforce	Portfolio tool / Strategic hiring / Contractor and non-fed FTE Status review meetings			X	X			
NCCT	Delays in awards of contract	Monthly business review				X		X	
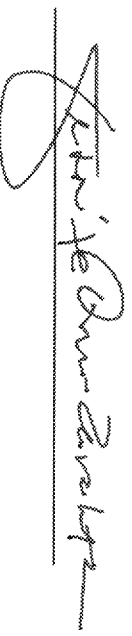
ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Associated Risk Category				
					Strategic	Operations	Reporting	Compliance	Fraud
NCCT	Reductions in funding levels	Product prioritization Product scope reviews and delivery date adjustments Monthly budget review			X	X		X	
NCCT	EPA Acquisition System (EAS) limited functionality	Client prioritization discussions			X				
NCCT	Facility and Equipment Management	Same as previously ID'd NCCT business process			X	X			
NCEA	Quality Assurance	Periodic review of QUAPP compliance Review of NCEA products by NCEA QA Manager	FY2017	FY2018	X				
NCER	Grants Management	Grants Post-Award Management Plan Grant File Quality Review STAR Grants LEAN Review	FY2018	FY2019	X	X		X	
NCER	Property Management	Property Certification	FY2018	FY2019	X	X	X	X	X
NCER		Small Business Research Programs: Most Agencies Met Spending Requirements but DID and EPA Need to Improve Data Reporting Small Business Research Programs: Agencies Need to Take Steps to Assess Progress Toward Commercializing Technologies Small Business R&D Venture Capital Annual Report to the Small Business Administration	FY2017 FY2018		X	X	X	X	X
NCER	SBIR								

ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Associated Risk Category				
					Strategic	Operations	Reporting	Compliance	Fraud
NCER	Fellowships	OIG Review of EPA Fellowships	FY2018						
NERL	Monthly ULO Review	Monthly ULO Review	FY18 Monthly	FY19 Monthly		X			
NERL	Annual Peer Review	Annual Peer Review	2017	2018		X			
NERL	QA Reviews	QA Reviews	FY18	FY19		X			
NERL	EMS, SHMS, Env. Audits	EMS, SHMS, Env. Audits	FY18	FY19		X		X	
NERL	Workforce Strategy	Workforce Strategy	FY18	FY19	X				
NERL	Product Review	Product Review	2018 March	2019 SEPT	X				
NHEERL	Triennial Laboratory Competency Audits	Triennial Laboratory Competency Audits	FY18	FY19				X	
NHEERL	Ethics Review	Ethics Review	FY18	FY19		X		X	
NHEERL	Annual Property Inventory	Annual Property Inventory	FY18	FY19		X			
NHEERL	Security & Sustainability Division Audit	Security & Sustainability Division Audit	FY18	FY19				X	
NHEERL	Semi-Annual SHEM Audit	Semi-Annual SHEM Audit	FY18	FY19				X	
NHEERL	Radiation Safety Program	Radiation Safety Program	FY17	FY22				X	
NHEERL	Scientific Integrity	Scientific Integrity	FY18	FY19				X	
NHSRC	Research Planning and Implementation	HSRP PARTNER Process Ongoing communications with partners in EPA, other federal Agencies, states and internationally	FY17	FY18	X	X		X	

ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Associated Risk Category				
					Strategic	Operations	Reporting	Compliance	Fraud
NHSRC	Quality Assurance	State Engagement Strategy (developing in FY18) Laboratory Competency Audits Periodic Review of SOPs and QMP	FY17	FY19	X			X	
NHSRC	National Security Information	NHSRC National Security Program OARM/SMD oversight and review	FY17	FY18		X		X	
NHSRC	Unauthorized Commitments	Ongoing budget execution review and segregation of responsibilities (e.g. Approving official, FCO, COR, CO, etc.)	Ongoing	Ongoing		X			X
NRMRL	Research Alignment	Quarterly Division Research Product Status Reviews	FY17	FY18	X				
NRMRL	Research Alignment	Bi-Weekly Division Research Product Status Reviews, including Communication Plan and Level of Peer Review	FY17	FY18	X				
NRMRL	Research Alignment	Research Product Review by Research Matrix Interfaces	FY17	FY18	X				
NRMRL	Research Alignment	Quarterly Review of TechTracker submissions	FY17	FY18	X				
NRMRL	Research Alignment	Monthly Business Reviews (ELMS)	FY17	FY18	X	x			
NRMRL	Research Alignment	Quarterly Business Indicators Report	FY17	FY18	X	x			
OPARM	Program Operations	Annual Acquisition Forecast	FY18	FY19		X		X	
OPARM	Program Operations	Grants Post Award Management Plan (PAMP)	FY18	FY19		X		X	
OPARM	Program Operations	Review of Annual GPRA Performance Commitments	FY18	FY19		X		X	

ORD/LCO	Program / Business Process	Key Internal Controls	Last Review (FY)	Next Review (FY)	Associated Risk Category				
					Strategic	Operations	Reporting	Compliance	Fraud
OPARM	Program Operations	Ethics Review	FY18	FY19	X			X	
OPARM	Program Operations	Annual Property Inventory	FY18	FY19		X		X	
OPARM	Program Operations	FAIR (Federal Activities Inventory Reform) Act Inventory	FY18	FY19		X	X	X	
OPARM	Program Operations	Monthly Business Reviews	FY18	FY19		X			
OPARM	Program Operations	Strategic Review	FY18	FY19	X	X	X	X	
OPARM	Program Operations	FMFIA Assurance Review	FY18	FY19		X	X	X	X
OPARM	Program Operations	ULO Review	FY18	FY19		X	X	X	
OPARM	Program Operations	Semi-Annual Review of Audit Recommendations	FY18	FY19	X	X	X	X	X
OPARM	Program Operations	Review of Policies and Procedures Manual	FY18	FY19		X	X	X	

ORD Principal Deputy Assistant Administrator for Science:

8/31/18

Date

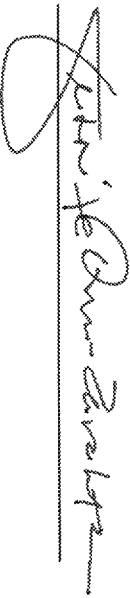## ENVIRONMENTAL PROTECTION AGENCY
FY 2018 MANAGEMENT INTEGIRYT PROGRAM

GAO Standards for Internal Control
Standards and Principles -- Assessment of Internal Control System

Standards	Principles	Designed and Implemented (Yes/No)	Operating Effectively (Effective/ Ineffective)
Control Environment	1. Demonstrate Commitment to Integrity and Ethical Values - Management has set the tone for the organization by their example - Standards of conduct are communicated and reinforced to all levels of the organization - Processes are in place to evaluate the performance of staff against expected standards of conduct	YES	EFFECTIVE
	2. Exercise Oversight Responsibility - Management has created an oversight structure for the internal control system. - Management has established the importance of internal controls and expectations for good and sound management	YES	EFFECTIVE
	3. Establish Structure, Responsibility and Authority - Program goals, objectives, and performance measures been clearly established. - Management has provided assignment of responsibility, delegation of authority and documented for lines of authority, including division of responsibility	YES	EFFECTIVE
	4. Demonstrate Commitment to Competence - Management has set clear expectations for standards and communicated them well? - Training and counseling are available to staff to maintain and improve their competence on the job	YES	EFFECTIVE
	5. Enforce Accountability - Management holds staff accountable for performing their responsibilities?	YES	EFFECTIVE
Risk Assessment	6. Define Objectives and Risk Tolerances - Has management defined objectives in specific terms so they are understood at all levels of the organization? - Are the defined objectives in measurable terms so that performance toward achieving the objective can be assessed? - Has management defined risk tolerances (how much risk can we acceptable)?	YES	EFFECTIVE

Standards	Principles	Designed and Implemented (Yes/No)	Operating Effectively (Effective/ Ineffective)
	7. Identify, Analyze, and Respond to Risk		
	- Has management identified what could go wrong or jeopardize achieving the control objective identified		
	- Has management identified and analyzed the potential impact on program operations and the likelihood—high, medium, low?	YES	EFFECTIVE
	- Has management designed specific actions to respond to the risks so that the risks are within the defined risk tolerance		
	8. Assess Fraud Risk		
	- Has management identified what types of fraud or misconduct can occur?	YES	EFFECTIVE
	- Has management designed specific actions to respond to the risks so that the risks are within the defined risk tolerance		
	9. Analyze and Respond to Change		
	- Has management identified changes that could significantly impact the organization's internal control system?	YES	EFFECTIVE
	- How will management respond and manage changes that occur?		
Control Activities	10. Design Control Activities		
	- Has management designed control activities that are appropriate to respond to identified risks	YES	EFFECTIVE
	11. Design Activities for Information Systems		
	- Has management designed control activities that are appropriate to respond to identified risks for information systems?	YES	EFFECTIVE
	12. Implement Control Activities		
	- Has management documented responsibilities through policies and procedures?		
	- Does management periodically review policies and procedures and related control activities for effectiveness in addressing identified risks?	YES	EFFECTIVE
Information and Communication	13. Use Quality Information		
	- Is quality and reliable information communicated effectively inside and outside of the organization?	YES	EFFECTIVE
	- What mechanisms are in place to share information—policy and procedure manuals, management directives, training programs?		
	14. Communicate Internally		
	- Who are the internal stakeholders for the organization?	YES	EFFECTIVE
	- How is the information communicated?		
	- What is the nature of the information?		

Standards	Principles	Designed and Implemented (Yes/No)	Operating Effectively (Effective/Ineffective)
	15. Communicate Externally - Who are the external stakeholders for the organization? - How is the information communicated? - What is the nature of the information?	YES	EFFECTIVE
	16. Perform Monitoring Activities - Do managers and supervisors know their responsibilities to monitor the effectiveness of control activities as part of their regular duties? - Has a baseline been established to monitor the internal control?	YES	EFFECTIVE
Monitoring	17. Remediate Deficiencies - Are internal control issues reported through established reporting lines on a timely basis to allow the organization to promptly evaluate the issue? - Are the issues documented and corrective actions established to remediate the issue?	YES	EFFECTIVE

Are all components operating together in an integrated manner? YES

ORD Principal Deputy Assistant Administrator for Science:
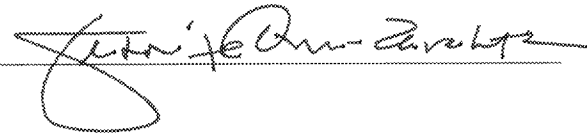
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_8/31/18_
Date

ENVIRONMENTAL PROTECTION AGENCY
FY 2018 Internal Controls Over Financial Management Systems

Financial Management Systems – ORD's Management Information System (OMIS)

Office of Research and Development

Financial Management Systems	Risk Assessment (High, Med, Low)	# Key Controls	Evaluated in FY 2018	Operating Effectively		Internal Control Deficiency (if ineffective)	
				Effective	Ineffective	Significant deficiency	Material weakness
ORD's OMIS-IRMS Financial Management System	Low	89	137	X		0	0
Total		89	137	X		0	0

ORD Principal Deputy Assistant Administrator for Science:

(signature)   8/31/18

Date